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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,771	02/28/2002	David B. Kramer	10-23	2012
7590	02/16/2006		EXAMINER	
Ryan, Mason & Lewis, LLP 90 Forest Avenue Locust Valley, NY 11560			JONES, PRENELL P	
			ART UNIT	PAPER NUMBER
			2668	

DATE MAILED: 02/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/085,771	KRAMER ET AL.	
	Examiner	Art Unit	
	Prenell P. Jones	2668	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 22 April 2002.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-5 and 8-19 is/are rejected.
- 7) Claim(s) 6 and 7 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ . |

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1, 2, 4, 5, 9-11, 14, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable Airy (US PGPUB 20020159411) in view of Agrawal et al (US PAT 6,072,784).

Regarding claims 1, 18 and 19, Airy discloses management and scheduling in a computer communication system wherein a processor includes a scheduling circuit for scheduling data blocks from a plurality of transmission elements (Abstract, a base transceiver/CPU/Processor station includes a scheduler that communicates plurality of data blocks between multiple subscriber units/transmission elements, the scheduler generates schedules that include time slots and frequency blocks requested by data blocks, queues are used to store and manage

time slots, data blocks, and frequency blocks, paragraph 0009, 0010, 0017, 0031, 0035, 0037), priority computation element associated with the scheduling circuit, and operative to determine a transmission priority for determining service class/priority associated with traffic type of subscriber, service flow request is adjusted, a group of subscribers make up a node tree, Abstract, Fig. 8 & 10, 0056, 0075, 0077, 0093, 0099-0103). Airy is silent on adjusting transmission priority for at least one transmission element to facilitate maintenance of a desired service level for a transmission element. In analogous art, Agrawal discloses transmission management with adaptive scheduling priorities levels wherein a base station (BS) communicating with a cluster of battery power mobile stations via prioritization and scheduling performed at the BS, priorities of transmission connections are varied based on battery power level of mobile station/maintenance of desired service level of transmission element, Abstract, col. 3, line 3 thru col. 4, line 37, col. 16, line 33-56). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement adjusting transmission priorities as to maintain a desired service level as taught by Agrawal with the teachings of Airy for the purpose of further managing the scheduling of transmission with respect to providing quality service in a multi-user communication network.

Regarding claim 2, as indicated above, Airy discloses management and scheduling in a computer communication system wherein a processor includes a scheduling circuit for scheduling data blocks from a plurality of transmission elements. Airy further discloses utilizing software algorithms in determining transmission priority (Abstract, Figs. 11 & 12, in scheduling transmission in a wireless network, program instructions/algorithms are used to determine the service class/priority of subscriber units.

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Regarding claim 4, as indicated above, Airy discloses management and scheduling in a computer communication system wherein a processor includes a scheduling circuit for scheduling data blocks from a plurality of transmission elements. Airy further discloses utilizing a group of transmission elements correspond to a first level of an N-level hierarchy of transmission elements, transmission elements corresponding to at least one lower level of the N-level hierarchy of transmission elements (plurality of priority rankings associated with traffic type which are Gold, Silver and Bronze, wherein Gold is the highest level hierarch, and allocation of data blocks are based on UBR subscriber units/group of transmission elements) service class hierarchy, wherein the scheduler assigns UBR-Gold service flow (highest level hierarchy) to subscriber units UBR-Bronze service flow (lower level of hierarchy) to subscriber units, paragraphs 0056, 0099, 0101, 0103, 0107, 0108)

Regarding claim 5, as indicated above, Airy discloses management and scheduling in a computer communication system wherein a processor includes a scheduling circuit for scheduling data blocks from a plurality of transmission elements. Airy further discloses that the mobile station (each transmission element) has a high/low priority queue (col. 15, line 54 thru col. 16, line 50).

Regarding claim 9, 10 and 11, as indicated above, Airy discloses management and scheduling in a computer communication system wherein a processor includes a scheduling circuit for scheduling data blocks from a plurality of transmission elements. Airy further discloses periodically determining if the transmission priority requires adjustment to maintain service level of transmission element after transmission of a specified number of data blocks and after transmission of each data block utilizing determining whether (Abstract, Fig. 12, adjustment of

data block weight of service flow/priority request is performed in a protocol format with respect to assigned data block or data blocks, determination of whether block weight of service flow/priority was satisfied is performed and adjustment of data block weigh of the service flow/priority is made accordingly, paragraph 0101 thru 0108).

Regarding claim 14, as indicated above, Airy discloses management and scheduling in a computer communication system wherein a processor includes a scheduling circuit for scheduling data blocks from a plurality of transmission elements. Airy further discloses that the system can include Ethernet, ATM frames or IP frame or data packets (paragraph 0041).

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Airy (US PGPUB 20020159411) in view of Agrawal et al (US PAT 6,072,784) as applied to claims 1 above, and further in view of Poole et al (US PAT 5,455,948)

Regarding claim 3, as indicated above, Airy discloses management and scheduling in a computer communication system wherein a processor includes a scheduling circuit for scheduling data blocks from a plurality of transmission elements, and Agrawal discloses transmission management with adaptive scheduling priorities levels. Both Airy and Agrawal are silent on script processor. In a communication system wherein a server communicates with various clients/workstations (transmission elements), Poole discloses a processor wherein priority computation element comprises of a script processor (Fig. 3, the server/processor contains a script processor and scheduler for job queuing and scheduling and communicating with facilities/workstations, col. 7, line 6-18). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement a script

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processor within a priority computation element such as a server, as taught by Poole with the combined teachings of Airy and Agrawal for the purpose of further managing and scheduling as associated with priority service access to users (transmission elements).

5. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Airy (US PGPUB 20020159411) in view of Agrawal et al (US PAT 6,072,784) as applied to claims 1 above, and further in view of Bonomi et al (US PAT 6,011,774)

Regarding claims 12 and 13, as indicated above, Airy discloses management and scheduling in a computer communication system wherein a processor includes a scheduling circuit for scheduling data blocks from a plurality of transmission elements, and Agrawal discloses transmission management with adaptive scheduling priorities levels. Both Airy and Agrawal are silent on a traffic queue having traffic shaping coupled to scheduling circuit supplying time slot request from transmission elements. In a communication system that utilizes scheduling and traffic shaping in a packet-switched network, Bonomi discloses a transmission queue coupled to traffic shaper coupled to a scheduler. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement a traffic shaper in association with transmission queues in a scheduling process as taught by Bonomi with the combined teachings of Airy and Agrawal for the purpose of further managing scheduling of transmission request by multiple transmission devices.

6. Claim 8 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Airy (US PGPUB 20020159411) in view of Agrawal et al (US PAT 6,072,784) as applied to claims 1 above, and further in view of Hashem et al (US PGPUB 2002/0122403 A1).

Regarding claim 8, as indicated above, Airy discloses management and scheduling in a computer communication system wherein a processor includes a scheduling circuit for scheduling data blocks from a plurality of transmission elements, and Agrawal discloses transmission management with adaptive scheduling priorities levels. Both Airy and Agrawal are silent on the processor and its associated scheduling circuit comprising of at least one time slot table. However, in analogous art, Hashem discloses managing and scheduling in a wireless computer communication system, wherein a processor includes a scheduling circuit for scheduling data blocks from a plurality of transmission elements, wherein the scheduling circuit included a least one time slot table, wherein the scheduling circuit is configured for utilizing at least one time slot table (Abstract, Figs. 7-11, in a wireless computer communication system wherein the architecture includes the communication between a base station and multiple mobile users, a radio resource manager (RRM) known as a scheduler in conjunction with a time slot table is utilized to for scheduling and managing resources and transmission frames/data blocks/packets, time slot table includes multiple locations for time slots identifier and associated identified multiple mobile devices, paragraph 0021, 0022, 0045, 0056, 0085, 0089, 0091, 0092, 0096). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement utilizing time slot tables in scheduling data for transmission as taught by Hashem with the combined teachings of Airy and Agrawal for the purpose of further managing and scheduling transmission in a communication system.

Regarding claim 17, as indicated above, Airy discloses management and scheduling in a computer communication system wherein a processor includes a scheduling circuit for scheduling data blocks from a plurality of transmission elements, and Agrawal discloses

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transmission management with adaptive scheduling priorities levels. Both Airy and Agrawal are silent on processor configured as an integrated circuit. In analogous art, Hashem further discloses that the processor is configured as an integrated circuit (processor can be provided as a single semiconductor integrated circuit, paragraph 0058). Therefore, it would have been obvious to one of ordinary skill in the art to implement a processor in the form of an integrated circuit as taught by Hashem with the combined teachings of Airy and Agrawal for the purpose minimizing cost and space.

7. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Airy (US PGPUB 20020159411) in view of Agrawal et al (US PAT 6,072,784) as applied to claims 1 above, and further in view of Milliken et al (US PAT. 6,526,062).

Regarding claim 16, as indicated above, Airy discloses management and scheduling in a computer communication system wherein a processor includes a scheduling circuit for scheduling data blocks from a plurality of transmission elements, and Agrawal discloses transmission management with adaptive scheduling priorities levels. Both Airy and Agrawal are silent on providing an interface for data block transfer between network and switch fabric. Milliken discloses scheduling the transmission of cell objects of different traffic types wherein a switch interface is used as an interface between processor and switch fabric. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement an interface switch between a processor and a switch fabric as taught by Milliken with the combined teachings of Airy and Agrawal scheduling system for the purpose of further managing the transmission of packets (data blocks) in a scheduling and prioritization environment.

Allowable Subject Matter

8. Claims 6 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter:

Although the prior art discloses utilizing scheduling in a communication system, wherein time slots are managed by a time slot table, they fail to teach or suggest with respect to claim 6 and 7, priority element determines an initial transmission priority for transmission elements of the group by designating a given transmission element as a current high priority transmission element, with the other transmission elements in the group being arranged in a linear order of decreasing priority relative to the current high priority transmission element, and with respect to claim 15, a given transmission element identifier can be linked to another of the transmission element identifiers so as to form a linked list of the corresponding transmission elements.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prenell P. Jones whose telephone number is 571-272-3180. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Prenell P. Jones



February 14, 2006



ALPUS H. HSU
PRIMARY EXAMINER